

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: DUDLEY POND	Lake Area (ha):	12.26
Town: DEERING	Maximum depth (m):	6.1
County: Hillsborough	Mean depth (m):	3.6
River Basin: Merrimack	Volume (m <sup>3</sup> ):	438500
Latitude: 43°07' N	Relative depth:	1.5
Longitude: 71°50' W	Shore configuration:	1.13
Elevation (ft): 837	Areal water load (m/yr):	27.89
Shore length (m): 1400	Flushing rate (yr <sup>-1</sup> ):	7.80
Watershed area (ha): 673.4	P retention coeff.:	0.44
% watershed ponded: 5.6	Lake type:	natural w/dam

BIOLOGICAL:

3 February 1988

2 July 1987

DOM. PHYTOPLANKTON (% TOTAL) #1	SPARSE - NO DOMINANT	DINOBYRON 25%
#2		ANACYSTIS 25%
#3		ANABAENA 15%
PHYTOPLANKTON ABUNDANCE (cells/mL)		795.0
CHLOROPHYLL-A (µg/L)		3.31
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 58%	NAUPLII LARVAE 68%
#2	GASTROPUS 15%	
#3		
ROTIFERS/LITER	117	2
MICROCRUSTACEA/LITER	9	17
ZOOPLANKTON ABUNDANCE (#/L)	134	19
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		4.9
BOTTOM DISSOLVED OXYGEN (mg/L)	6.1	0.3
BACTERIA (fecal col., #/100 ml) #1		< 10
#2		
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.3  
Hypolimnion volume (m<sup>3</sup>): None

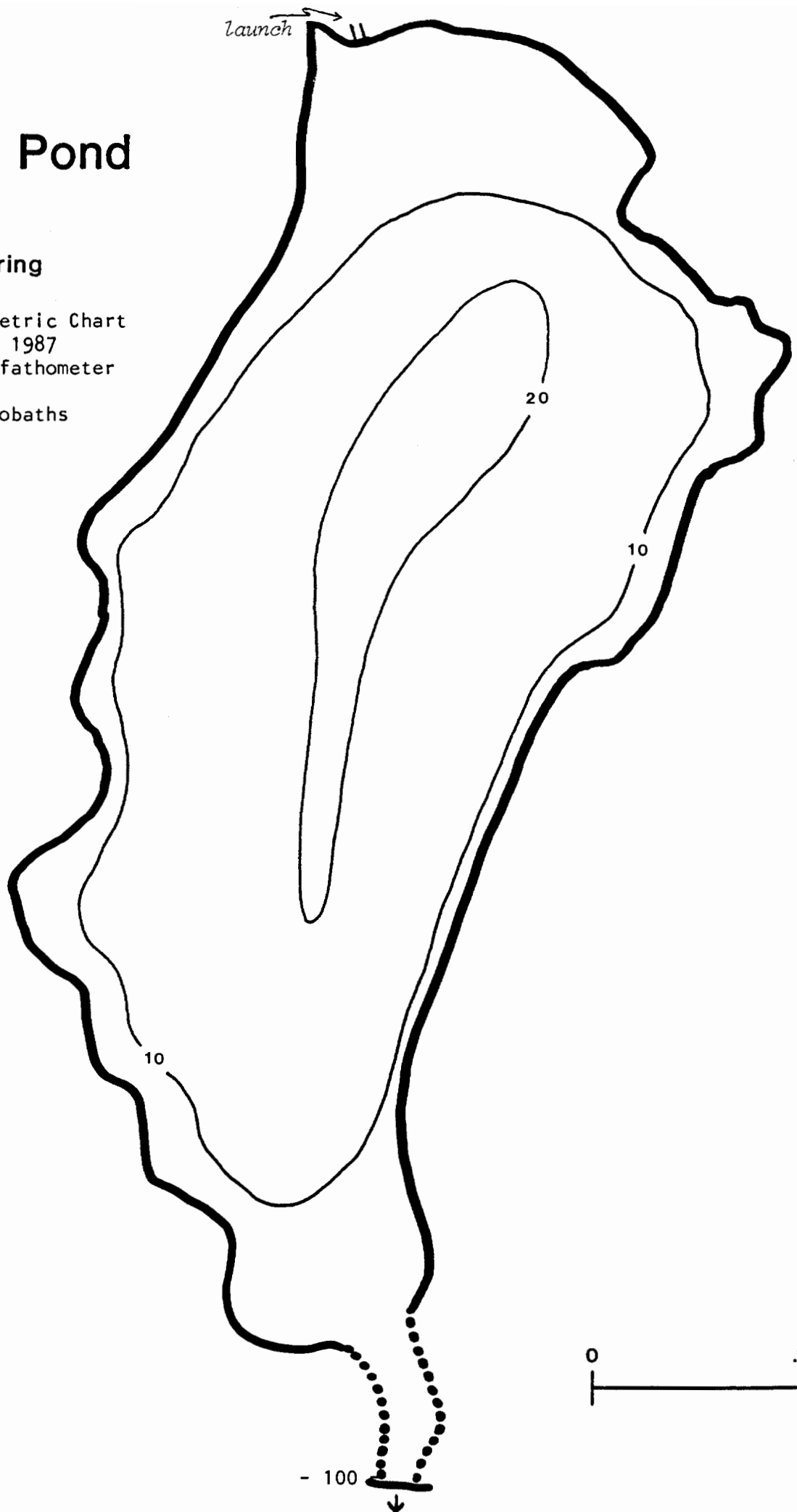
<u>CHEMICAL:</u>		Lake: DUDLEY POND Town: DEERING				
	3 February 1988		2 July 1987			
DEPTH (m)	2.0	4.0	2.0		4.0	
pH (units)	6.3	6.1	6.7		6.5	
A.N.C. (Alkalinity)	6.0	6.2	5.2		4.0	
NITRATE NITROGEN	0.06	< 0.05	< 0.05		< 0.05	
TOTAL KJELDAHL NITROGEN	0.27	0.51	1.40		1.10	
TOTAL PHOSPHORUS	0.009	0.013	0.016		0.014	
CONDUCTIVITY ( $\mu$ mhos/cm)	34.2	33.9	28.8		28.6	
APPARENT COLOR (cpu)	24	24	21		28	
MAGNESIUM			0.53			
CALCIUM			2.2			
SODIUM			2.0			
POTASSIUM			0.70			
CHLORIDE	< 2	< 2	< 2		< 2	
SULFATE	5	5	4		4	
TN : TP	37	39	87		79	
CALCITE SATURATION INDEX			3.5			
All results in mg/L unless indicated otherwise						
<u>TROPHIC CLASSIFICATION: 1987</u>						
	D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
	5	1	1	0	7	Meso.
<u>COMMENTS:</u>						
1. Petroleum powered motors are not allowed on this pond.						
2. This is a scenic, tranquil, somewhat remote pond. Access was by a narrow, 4-wheel drive road. Launch was good but sandy and a little soft.						
3. Only one small camp was present.						
4. Green algae made up 75% of the whole-water phytoplankton community. Tiny green flagellates were the dominant genus (70%).						

# Dudley Pond

## Deering

Rough Bathymetric Chart  
WSPCD - 1987  
sounded by fathometer

10 ft. isobaths



0 .1 km

# FIELD DATA SHEET

LAKE: DUDLEY POND	TOWN: DEERING
DATE: 07/02/87	WEATHER: OVERCAST, BREEZY

LAKE: DUDLEY POND	TOWN: DEERING
DATE: 07/02/87	WEATHER: OVERCAST, BREEZY

[illegible]

SECCHI DISK (m):	4.9	COMMENTS:
------------------	-----	-----------

SECCHI DISK (m):	4.9	COMMENTS:
------------------	-----	-----------

BOTTOM DEPTH (m): 6.3

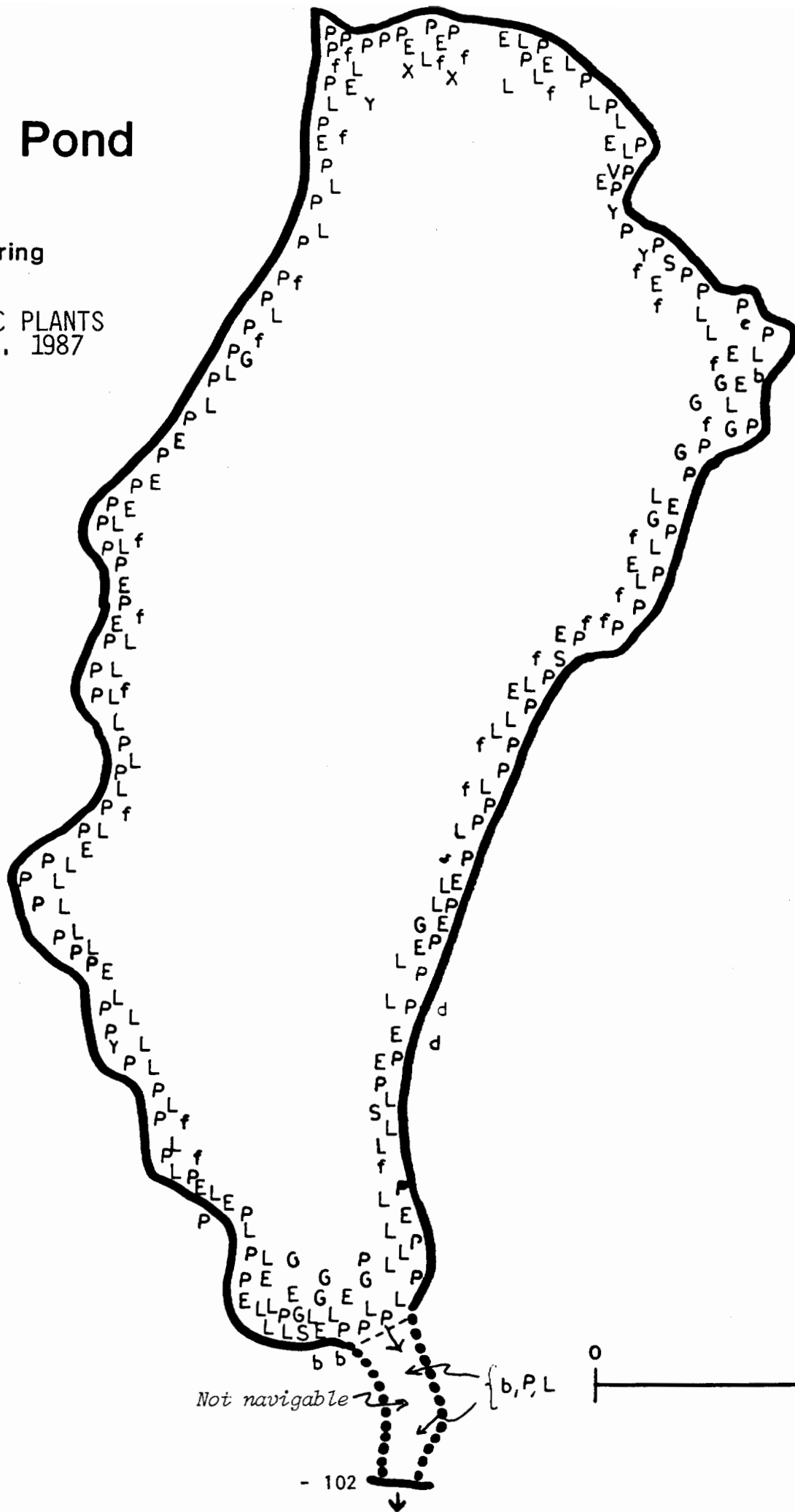
TIME: 1245

\*Dissolved oxygen values are in mg/L

# Dudley Pond

Deering

AQUATIC PLANTS  
2 JUL. 1987



Not navigable

{ b, P, L

0 .1 km

AQUATIC PLANT SURVEY

LAKE: DUDLEY POND	TOWN: DEERING	DATE: 07/02/87
-------------------	---------------	----------------

TOWN: DEERING

DATE: 07/02/87

[illegible]

OVERALL ABUNDANCE: Scattered
------------------------------

GENERAL OBSERVATIONS:

1. Plants were present along the entire shoreline, but were dense only near the launch (northern end), at the outlet, and in a few small coves.
2. Bottom growth was over most of the bottom and filamentous algae was common along most of the shoreline.
3. Bottom consisted of a thin 'peaty' layer over sand.
4. Two beaver huts were observed. Many fish nests and big sunfish were present. Largemouth bass was also seen.

5. Lobelia was very common along most of the shoreline but its sparse growth habit caused no problem to navigation.